



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: FINAROV=3A

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|----------------------------|---|------------------------|
| In re Application of: |) | Confirmation No.: 9921 |
| |) | |
| Moshe FINAROV et al. |) | Art Unit: 2877 |
| |) | |
| Appln. No.: 10/724,113 |) | Examiner: -- |
| |) | |
| Filed: December 1, 2003 |) | Washington, D.C. |
| |) | |
| For: METHOD AND SYSTEM FOR |) | March 16, 2004 |
| MEASURING PATTERNED... |) | |
| |) | |

INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner for Patents
U.S. Patent and Trademark Office
2011 South Clark Place
Crystal Plaza Two, Lobby, Room 1B03
Arlington, Virginia 22202

Sir :

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed:

[] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

☒ B. before the mailing date of a first Office action on the merits or before the mailing of a first Office action after the filing of a Request for Continued Examination under 37 C.F.R. §1.114.

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicants have made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below).

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant(s) state as follows under 37 CFR §1.97(e) for consideration of this IDS, that, upon information and belief, each item of information listed herein was either

2. In accordance with 37 CFR §1.98, this IDS includes a list (e.g., Form PTO/SB/08A) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached, except as explained below.

☒ Documents AA-AG are U.S. patents and/or published applications. As this is a U.S. application filed after June 30, 2003, or an entry into national stage under 35 USC §371 after June 30, 2003, the requirement to file copies of such U.S. patents or published applications has been waived. (Office of Patent Legal Administration - Pre O.G. Notice of July 11, 2003).

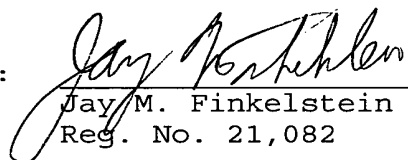
3. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

4. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant(s) reserves the right to prove that the date of publication is in fact different.

Respectfully submitted,

BROWDY AND NEIMARK
Attorneys for Applicant(s)

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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| Sheet | 1 | of | 1 |
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Complete if Known

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|------------------------|----------------------|
| Application Number | 10,724,113 |
| Filing Date | December 1, 2003 |
| First Named Inventor | Moshe FINAROV et al. |
| Group Art Unit | 2877 |
| Examiner Name | — |
| Attorney Docket Number | FINAROV=3A |

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard St.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard St.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2

of 2

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| Application Number | 10,724,113 |
| Filing Date | December 1, 2003 |
| First Named Inventor | Moshe FINAROV et al. |
| Group Art Unit | 2877 |
| Examiner Name | - |
| Attorney Docket Number | FINAROV=3A |

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T ² |
|-----------------------|--------------------------|--|----------------|
| | AH | N. CHATEAU et al, "Algorithm for the rigorous coupled-wave analysis of grating diffraction", <i>Journal of the Optical Society of America A</i> , vol. 11, no. 4, April 1994, pp 1321-1331 | |
| | AI | T. GAYLORD et al, "Analysis and Applications of Optical Diffraction by Gratings", <i>Proceedings of the IEEE</i> , vol. 73, no. 5, May 1985, pp 894-938 | |
| | AJ | E. GLYTSIS et al, "Review of rigorous coupled-wave analysis and of homogeneous effective medium approximations for high spatial-frequency surface-relief gratings", <i>Conference on Binary Optics</i> , February 23-25, 1993, pp 62-76 | |
| | AK | E. GLYTSIS et al, "Rigorous coupled-wave analysis and applications of rating diffraction", <i>Diffraction and Miniaturized Optics, Critical Reviews of Optical Science and Technology</i> , Vol. CR49, 12-13 July 1993, pp 3-31 | |
| | AL | R. KRUKAR et al, "Overlay and grating line shape metrology using optical scatterometry: final report", August 31, 1993, <i>DARPA, U. S. Army Missile Command</i> , p.28 | |
| | AM | R. KRUKAR et al, "Reactive ion etching profile and depth characterization using standard and neural network analysis of light scattering data", <i>J. Appl. Phys.</i> Vol. 74, No. 6, 15 September 1993 | |
| | AN | S. LEE et al, "More stable algorithm for rigorous coupled wave analysis applied to topography simulation in optical lithography and its numerical implementation", <i>Optical Microlithography IX, SPIE</i> , vol. 2726, 13-15 March 1996, pp 288-298 | |
| | AO | J.M. LENG et al, "Simultaneous measurement of six layers in a silicon on insulator film stack using spectrophotometry and beam profile reflectometry", <i>Journal of Applied Physics</i> , vol. 81, No.8, Apr. 1997, pp 3570-3578 | |
| | AP | D. MILLS et al, "Spectral ellipsometry on patterned wafers", <i>Process, Equipment, and Materials Control in Integrated Circuit Manufacturing, SPIE</i> vol. 2637, 25-26 October 1995, pp 194-203 | |
| | AQ | S. PENG et al, "Efficient implementation of rigorous coupled-wave analysis for surface-relief gratings", <i>J. Opt. Soc. Am. A</i> , vol. 12, no. 5, May 1995, pp 1087-1096 | |
| | AR | D. ZIGER et al, "Linesize effects on ultraviolet reflectance spectra", <i>Optical Engineering</i> , January 1997, vol. 36, no. 1, pp 243-250 | |
| | AS | Z. ZYLBERBERG et al, "Rigorous coupled-wave analysis of pure reflection gratings", <i>J. Opt. Soc. Am.</i> , vol. 73, no. 3, March 1983, pp 392-398 | |

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.